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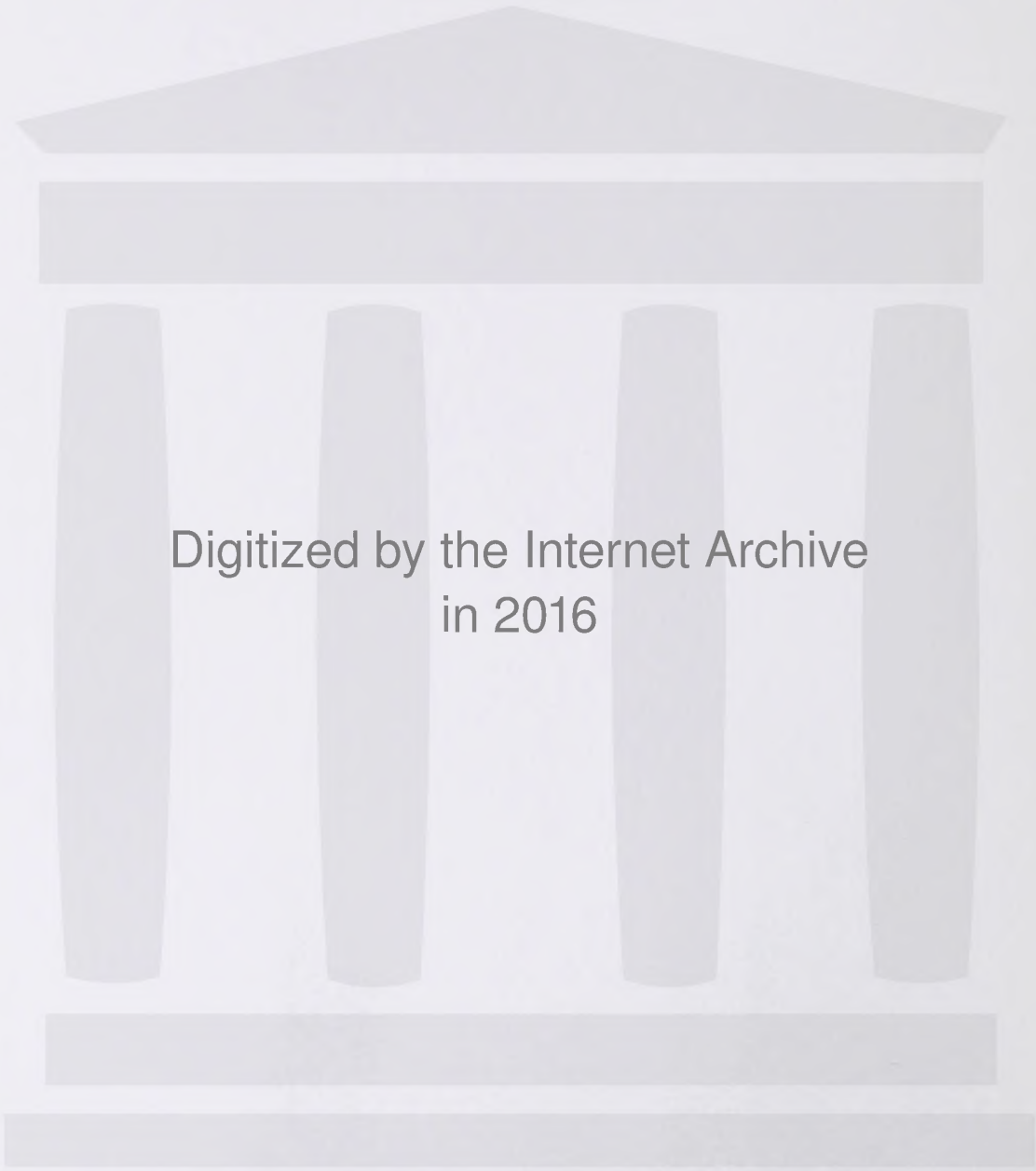
Thoroughfare Plan
Ayden, North Carolina

September 1978



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THOROUGHFARE PLAN

AYDEN, NORTH CAROLINA

SEPTEMBER 1978

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Introduction

INTRODUCTION

The following thoroughfare plan outlines a proposed system of streets and highway to serve as a basis for future development decisions which affect Ayden's transportation network.

This plan was developed in conjunction with the thoroughfare planning principles described in the second chapter of this report. It was also formulated in accordance with established land use planning practices and principles. It is based upon general traffic, population, land use, economic information and trends. An analysis of current traffic conditions is based upon recent traffic counts for the previous eight years. Recent studies developed for the town have also been reviewed. Major and minor thoroughfares were located in accordance with existing and projected needs. Site suitability was considered through field investigations, aerial photos and existing land use and topographic conditions. The plan establishes those improvements which are anticipated through the year 2000.

The responsibility for the proposed improvements will be divided between the Highway Commission and the Town of Ayden. Since two governmental units are primarily involved in developing the proposed system adequate coordination is essential. Without sufficient understanding of the intentions of each governmental unit proper implementation of the plan is made less likely. Following mutual adoption of the

Thoroughfare Plan financial and resource commitments for its implementation should be developed as outlined in the final chapter of this report.

II. PRINCIPLES OF THOROUGHFARE PLANNING [1]

Objectives

Typically, streets in a city or town occupy up to thirty percent of the total developed land in the urban area. This permanent and expensive system often is the determining factor in how the community develops.

Streets provide two basic functions--vehicle movement and access to land. Basically, these two functions are incompatible. The ability of streets to carry traffic is reduced when those same streets provide access to property and vice versa. When an additional demand--storing vehicles (parking)--is made on the roadway, further impairment of its function is encountered.

While at low traffic volumes more than one function can be accommodated, as traffic volumes increase conflicts occur. Thus, it is essential that a system of streets be developed. One category of streets could provide access to property, while another category's primary function would be to carry traffic.

The objective of thoroghfare planning is to devise such a system of streets. The major benefits derived from such planning are: (1) Each street can be designed to perform a specific function. This permits savings in

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[1] This section was derived largely from thoroughfare plans prepared by the N. C. State Highway Commission, Advanced Planning Department.

right-of-way construction and maintenance costs, protects residential neighborhoods, and encourages stability in travel and land use patterns. (2) Local officials and citizens are informed as to future improvements. Developers can design subdivisions to function in a non-conflicting manner. School and park officials can better locate their facilities. Irreparable damage to property values and community appearance, as is sometimes associated with street building and widening programs, can be minimized. town officials will know when improvements will be needed and can schedule funds accordingly.

In order to achieve the above objective, the road system is divided into several categories of streets, each category designed to perform a specific function. A discussion of this classification system follows:

Street Classification

Local Access Streets: These streets have the purpose of providing access to abutting property. They are not intended to carry heavy volumes of traffic and should be located in such a way to serve only traffic with origins or destinations on these streets. There are several different types of local access streets which can be classified according to the type of abutting land use which they serve. They are:

Residential Streets: Residential streets provide access to abutting residential property. Through traffic movements should be discouraged by designing them as loops or cul-de-sacs (dead-end streets with turn arounds). These streets should have two traffic lanes and may have parking on one or both sides. They should have a minimum right-of-way of 60 feet.

Commercial Streets: Commercial streets provide access to abutting commercial property. They permit traffic to circulate in commercial areas and to reach parking facilities near their desired destinations. These streets should have sufficient width to provide two traffic lanes; and, if on-street parking is permitted, sufficient width for parking operation lanes and parking spaces. If a commercial street is used as a thoroughfare, additional traffic lanes may be required.

Industrial Streets: Industrial streets provide access to abutting industrial development. They usually have a higher percentage of truck traffic, and loading and unloading may take place on the street. Two traffic lanes should be provided with additional street width for parking or loading and unloading, if either is permitted. A minimum right-of-way of 60 feet is desirable.

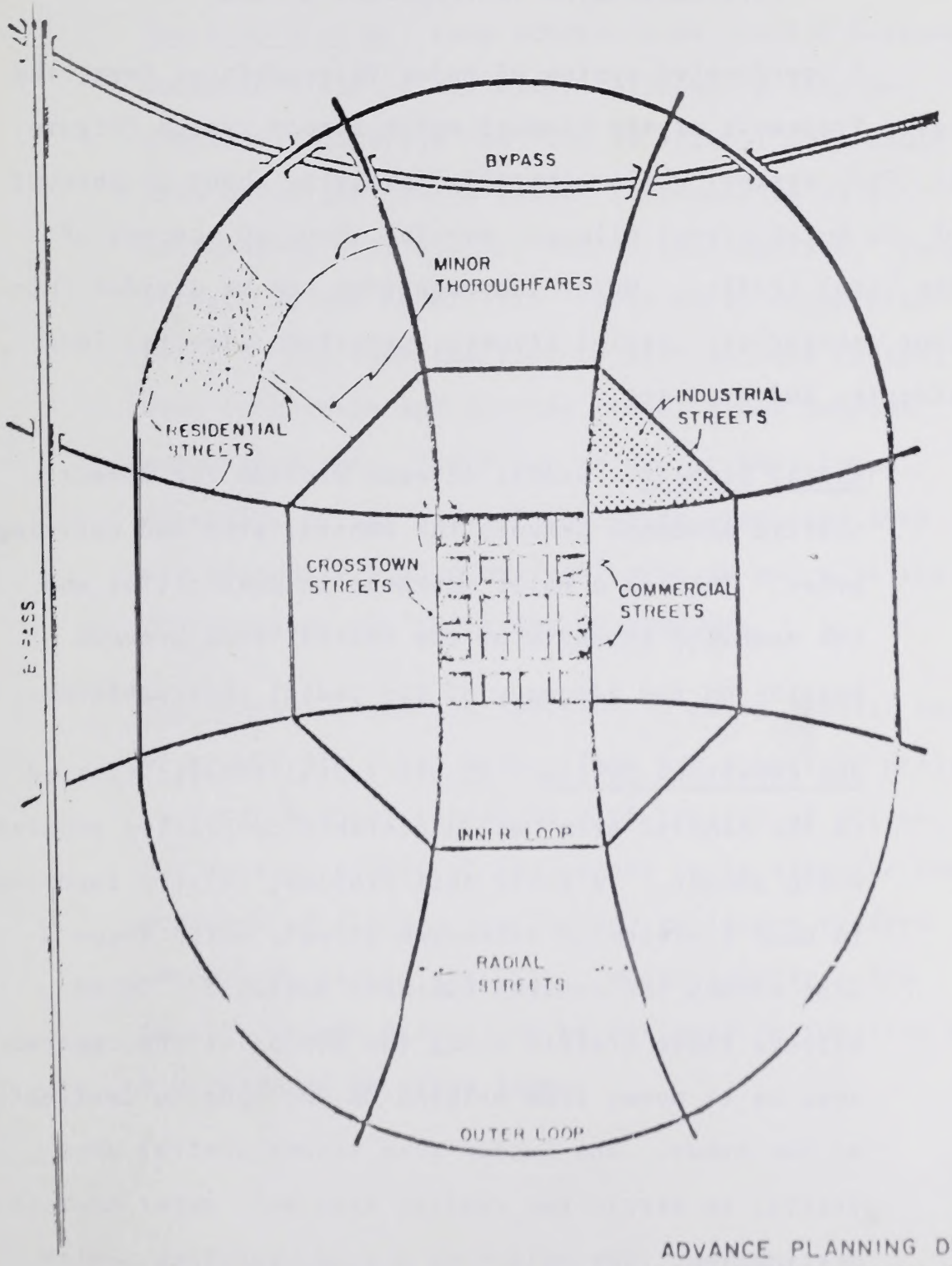
Minor Thoroughfares: These are more important streets

in the city system. They perform the function of collecting traffic from residential, commercial, and industrial streets and carrying it to the major thoroughfares. In some cases, they may supplement the major thoroughfare system by facilitating a minor through traffic movement. In either case, they perform an additional function by also serving abutting residential, commercial, or industrial property. Minor thoroughfares should be designed to serve only a limited area to prevent their development as major thoroughfares. Two or four traffic lanes may be required, depending on traffic volumes, and parking may be permitted on both sides. Right-of-way may vary upwards from a recommended minimum of 60 feet.

Major Thoroughfares: Major thoroughfares provide for (1) the movement of traffic from one area of the city to another; (2) through traffic movements, and (3) movement of traffic into and out of the city. The streets which comprise the major thoroughfare system may also serve abutting property; however, THEIR MAJOR FUNCTION IS TO CARRY TRAFFIC. They should not be bordered by uncontrolled strip development. Such development lowers the capacity of the thoroughfare significantly and each driveway is a danger and impediment to traffic flow. Major thoroughfares may range from a two-lane street carrying minor traffic volumes to major expressways with four or more traffic lanes.

FIGURE 1

IDEALIZED THOROUGHFARE SYSTEM



ADVANCE PLANNING DEPARTMENT
N.C. STATE HIGHWAY COMMISSION

LEGEND

INDUSTRIAL USES
RESIDENTIAL USES
COMMERCIAL USES

Design standards vary accordingly. Usually parking should not be permitted on major thoroughfares.

Idealized Major Thoroughfare System

A coordinated system of major thoroughfares forms the basic framework of the planned urban street system (Figure 1). This system, while generally involving about 25 percent of the total street mileage, carries about 80 percent of the total traffic. Major thoroughfares can be divided into four categories: radial streets, crosstown streets, loop streets, and bypasses.

Radial Streets: Radial streets provide for direct traffic movement between the central area and outlying areas. This is a major movement in most cities and the economic strength of the central area depends heavily on the adequacy of the radial thoroughfares.

The Crosstown System: If all radial streets crossed in the central area, an intolerable congestion problem would result. To avoid this problem, it very important to have a system of crosstown streets which forms a loop around the central business district. These streets route traffic along the border of the central area as it moves from origins on one side to destinations on the other. The system also allows central area traffic to circle the central area and enter near its destination. The effect of a good crosstown system is

to free the central area of crosstown traffic, thus permitting the central area to better function in its role as a pedestrian shopping area.

The Loop System: Loop streets move traffic between suburban areas of the city. Although a loop may completely encircle the city, a typical trip would be from an origin near a radial thoroughfare to a destination near another radial thoroughfare. Loop streets do not necessarily carry heavy volumes of traffic, but they function to help relieve central area congestion and shorten travel times between suburban areas. There may be one or more loops, depending on the size of the urban area, and they are generally spaced one-half mile to one mile apart, depending on the intensity of land use.

The Bypass: Bypasses function to carry traffic through or around the urban area. They are generally designed to rural highway standards with control of access. The general effect of the bypass is to expedite the movement of through traffic and to lessen traffic congestion within the city. Occassionally a low traffic volume bypass can be designed to function as a portion of an urban loop.

Philosophy of Approach

The previous description of the idealized thoroughfare system applies to the general situation. While the same basic principles apply, it is not the purpose of the thoroughfare plan to present an idealistic pattern superimposed on the existing street system. Thoroughfare planning is done for residential urban areas and based on anticipated future development. Residential areas, schools, shopping center locations, major industrial areas, railroads, public and semi-public land use locations, topographical features, and many other factors all exert influences on the locations of thoroughfares. It is also necessary that maximum advantage be taken of the existing basic street system which represents a major monetary investment and the thoroughfare plan must be compatible with other elements of the urban planning and development program.

Principles of Thoroughfare Planning

THOROUGHFARE PLANNING AREA

For the purpose of this plan, the Ayden planning area was used as the planning area. This area includes the total incorporated area of Ayden and a one mile zoning jurisdiction beyond the corporate limits.

Four major factors affecting transportation will be examined. They are: (1) population characteristics; (2) trends in the local economy; (3) past and current trends in land development; and (4) motor vehicle registration and usage. Each of these elements will be examined to determine their impact upon Ayden's transportation system.

Population[1]

Ayden has been growing in a relatively stable manner for the past thirty-five years. There have been no significant events during this period which have caused drastic changes in the town's population growth.

Table I indicates the population trends for the town in relation to the City of Greenville and Pitt County as a whole. An analysis of the population growth of these three areas indicates a mutual growth pattern. Such a relationship implies that the population of Ayden will change in almost an identical fashion as Greenville and Pitt County. Ayden's share of the population growth has been relatively constant and is no reason to believe that this condition will change in the foreseeable future.

TABLE I

Population Trends

In

Ayden, Greenville and Pitt County 1960-1980

1940	1884	---	12,691	---	61,244	---
1950	2282	17.44%	16,713	24.07%	63,789	3.99%
1960	3108	26.57%	22,800	26.70%	69,942	8.80%
1970	3450	9.91%	29,063	21.55%	73,900	6.36%
1976	3880	15.58	34,740	16.34%	79,500	7.05%
1980	4290	19.58%	38,000	23.52%	82,000	

Source: Linear Extension Based Upon Bureau of the Census Figures.

Economy [2]

Ayden originally developed as a market community. The town's business district is relatively large but there are indications that the town residents look to other areas, primarily Greenville to make their major purchases. A study made in 1967 concerning the economic development of Ayden indicated that residents shopped outside of the town for home furnishings, hardware and appliances, but purchased groceries within the town.[3]

A comparison of use development for property devoted to commercial and industrial activities indicate substantial growth within Ayden over the past fourteen years. Within the town, land use for commercial activity has grown from 17 to 27 acres or 59%. Commercial activities have failed to grow outside of the corporate limits. Land devoted to industrial or wholesale activities within the town has grown from 12 to 20 acres or 67%. Within the planning area the amount of land devoted to industrial or wholesale activities within the one mile planning area has grown from 8 acres to 75 acres or 838%.[2]

Growth of the amount of land in the industrial and commercial categories has not kept pace with the other land use categories. In 1963 commercial activities occupied 4.14% of Ayden's total developed area. By 1976 this proportion has fallen to 2.10% of the total developed land. The industrial and wholesale activities have also fallen in relative significance. In 1963 Industrial and Commercial activities occupied 2.91% of the total developed land

within Ayden but by 1976 this figure had dropped to 1.54%.[3]

These figures tend to indicate that Ayden while continuing to grow has lost the importance that it once had as a commercial center. Industrial growth appears to be occurring outside of Ayden's planning area. These findings infer that Ayden is becoming more of a bedroom community of the Greenville area. Most of the business and financial transactions of the town residents occur outside of the Central Business area.

The economic trends in Ayden indicate that transportation planning for the town should concentrate upon residential needs. The traffic flow in the community should strive to maximize access to major residential areas of the town. Access to the commercial areas should be assured but the major need will be for free flowing traffic to and from residential area.

Land Use[3]

Approximately 67% of the total land area within the transportation planning area has not been developed for urban use. Most of the undeveloped land is pasture, forest or used for productive agricultural pruposes. Most of the land within the corporate limits has been developed. Some areas within the corporate limits (approximately 23 percent) have not been converted to urban uses.

Residential areas account for over 55 percent of the developed land within the town of Ayden. A housing survey conducted in 1977 reveals that 89 percent of all residential units are single family detached houses. Some areas including areas with assisted housing have multi-family duplex and triplex units. No single area of the town has a high concentration of multi-family units.

Land devoted to transportation facilities occupy nine percent (9%) of the total developed land. This represents the second highest single category for developed property. Commercial Industrial and Public and Semi-Public activities comprise the remaining amounts of developed land.

The most striking characteristic of the land use system within Ayden is the modified gridiron pattern imposed upon the town by the street network. This pattern is modified in the most recently developed sections of town. In some residential areas such as those found to the west of Juanita Street or north and east of College Street the gridiron pattern has been abandoned. In these sections cul-de-sac and loop streets have been developed for the residential areas. Streets such as these reduce the speed and volume of traffic flow within residential neighborhoods. Curved streets and those which terminate in a circle discourage motorists from using such residential roads as through traffic arteries.

Another striking feature of the land use pattern of the town is that the majority of undeveloped land is found at the NE, NW, SE, and SW corners of the corporate limits. Development in these sections would be encouraged with a properly designed loop and bypass system.

Major traffic generators outside of the central business area are located along State Road 1149 at the northern and southern areas of the town, at the western end of Third Street and along the 200 block of East Avenue.

Future Projections

The Ayden Land Use Plan, 1976, examines the major constraints and trends affecting growth in the Ayden area. The plan was developed in accordance with the projections for projections for population growth and the needs of households. The plan anticipates that future development in Ayden will continue to proceed outward from the central areas of the town. Expansion has been occurring in this direction since the adoption of the plan. Most of the area east of U. S. 11 is projected for industrial and commercial uses while the majority to the west is slated for residential and commercial with industrial areas to the north and south of the corporate limits.

The major constraining factors affecting future growth in Ayden are U. S. 11 and Swift Creek. They serve as natural and manmade boundaries to the town's development.

The limited number of points which cross Route 11 will have a restraining affect upon residential growth west of the highway. Points of access to Route 11 should be utilized and made an integral part of the traffic pattern of the town.

The natural boundary formed by Swift Creek prevents most forms of development from occurring in the vicinity of the Creek. This boundary might be utilized to define the extent of the future transportation network of the town.

Motor Vehicle Registration

Motor vehicle registration in the United States has increased at a much greater rate than has the population. Vehicle ownership trends in North Carolina Pitt County and Ayden for the period 1972-1978 are shown on table II.

TABLE II
Motor Vehicle Registration, 1972-1978
North Carolina, Pitt County and Ayden

Year	North Carolina	Pitt County	Ayden
1972	3,692,919	42,773	1250
1973	3,978,413	45,224	1290
1974	4,145,821	47,244	1400
1975	4,274,227	51,024	1450
1976	4,490,294	54,546	1600
1977	4,695,259	57,204	1690
1978	-------	----	1780

Source: Town of Ayden, North Carolina Department of Motor Vehicles.

Current Transportation Conditions

CURRENT TRANSPORTATION CONDITIONS

Major Arteries

The major element affecting the transportation network in Ayden is U. S. Route 11. This four lane divided highway serves as the primary traffic artery between the cities of Greenville and Kinston. Access points to Route 11 within the Ayden Planning Area are located at intersections of U. S. 11 with State Road 1149; State Road 1113 (Snow Hill Street); N. C. 102 (Third Street); County Road 1119 and County Road 1120. The intersection of N. C. 102 with U. S. 11 is controlled by a traffic signal. U. S. 11 serves the town as the major artery of the town to Greenville, Kinston and Grifton. Virtually no inter urban traffic is served by this highway.

N. C. 102 (Third Street) is another significant thoroughfare in the Ayden Planning Area. This highway serves as a principal link between Snow Hill and U. S. 17. State Road 1149 (old highway 11) serves as the principal link between Ayden and Winterville (See Map).

Town System

Because of the gridiron transportation system, it is difficult to develop a hierarchy of streets within the town. The streets which function as radial streets to bring traffic into or through the central portion of town include the following:

Third Street (Highway 102)

Lee Street (State Road 1149)

Venters Street

Snow Hill Street (State Road 1113)

The streets which tend to function as cross-town streets include the following:

Pitt	Sixth
W. Railroad	First
E. Railroad	Second
Blount	Fifth

Loop Streets

A partial loop system has been developed within Ayden. The loop pattern serves to relieve some of the traffic flow from the central areas of the town. The system as it is now comprised poses some difficulties which can be overcome. The system is composed of East College Street (SR1721), State Road 1122 and Juanita Street. The loop system currently does not provide ready access to U. S. 11 and a circumfrential pattern for the southern part of town has not been established.

Accident Patterns

Traffic accident data for the Town of Ayden during 1977 was gathered from the accident reports of the Town Police

Department. All accidents causing property damage or bodily injury were included. If less than three accidents occurred along a street or at an intersection they were compiled under the "other" category.

There was a total of ninety one reported accidents in 1977. Of all of the accidents occurring in 1977 only four resulted in bodily injury and there were no fatalities. The largest number of accidents occurred along Lee and Second Streets. The intersections with the greatest number of accidents were: Second and Lee Streets; Lee and Third Streets; West Railroad and Third Streets as well as Barwick and Lee Streets. There were also a large number of accidents occurring in parking lots.

An examination of the accident reports indicates that a large proportion were the result of vehicles entering streets from alleys, driveways and parking lots. This is especially true of a number of accidents which occurred in the downtown area. A large number of accidents occurred along Second Street which is primarily a residential street and not a thoroughfare. If adequate circumfrential routes are provided some of the accident problems associated with Second Street will be alleviated. Another potential problem area is found at the intersection of Barwick, Lee and Venters Streets. The oblique which are formed by these intersecting streets should be corrected to avoid future mishaps.

TABLE

Summary of Traffic Accidents, 1977
Town of Ayden, North Carolina

Location	Frequency
Lee Street	13
Second Street	12
Parking Lots	10
Third Street	9
Second and Lee Streets	9
Lee and Third Streets	5
Barwick and Lee Streets	4
Venters Street	4
West Railroad and Third Streets	4
Other Locations	21

Source: Town of Ayden Police Department, Accident Reports

Traffic Volume Patterns

The traffic volume patterns of the previous six years indicate that the principal arteries have been gaining in traffic volume. Principally, Highway 11, Lee Street and Third Street have seen a considerable growth of average daily traffic volume. At some locations along Third Street traffic volumes have increased as much as twenty-five percent every two years. Traffic along Lee Street has increased at some

TABLE

Traffic Volume Patterns 1970-1976
Ayden, North Carolina

STREET	1970	1972	1974	1976
3rd Street (West of 1120)	2000	2550	3200	4000
3rd Street (West of Snow Hill)	3750	4200	--	--
3rd Street (West of Lee Street)	4750	4500	4500	5100
3rd Street (East of Lee Street)	4150	3900	3600	4050
3rd Street (West of McCary St.)	2950	2750	--	--
3rd Street (West of College St.)	2400	2200	--	--
3rd Street (West of Town Limits)	2150	2000	2000	2300
2nd Street (East of 1120)	600	640	--	600
2nd Street (At Juanita St.)	440	570	--	--
2nd Street (East of Lee St.)	2350	2550	--	--
SR 1122 (At Railroad Tracks)	500	600	600	650
E. Railroad St. (S. of 3rd St.)	1450	1450	1350	--
E. Railroad St. (S. of town limits)	1050	1100	1100	950
N. C. 1149 (Old 11) (At S. town limits)	3800	2000	2500	2800
Lee Street (S. of 3rd St.)	5500	4000	3700	--
Lee Street (N. of 3rd St.)	7750	4700	--	--
Lee Street (N. of 1st St.)	6600	3900	4100	--
Lee Street (At Power St.)	5850	3100*	--	--
Snow Hill St. (At S. Corp. Limits)	830	920	920	850
Snow Hill St. (S. of 3rd St.)	1350	1350	--	900
U. S. 11 (S. of 1131)	--	5000	6000	6600
U. S. 11 (At V. of 11 and 1149)	--	4100	--	4600

Source: Department of Transportation, Average Daily Traffic Counts.

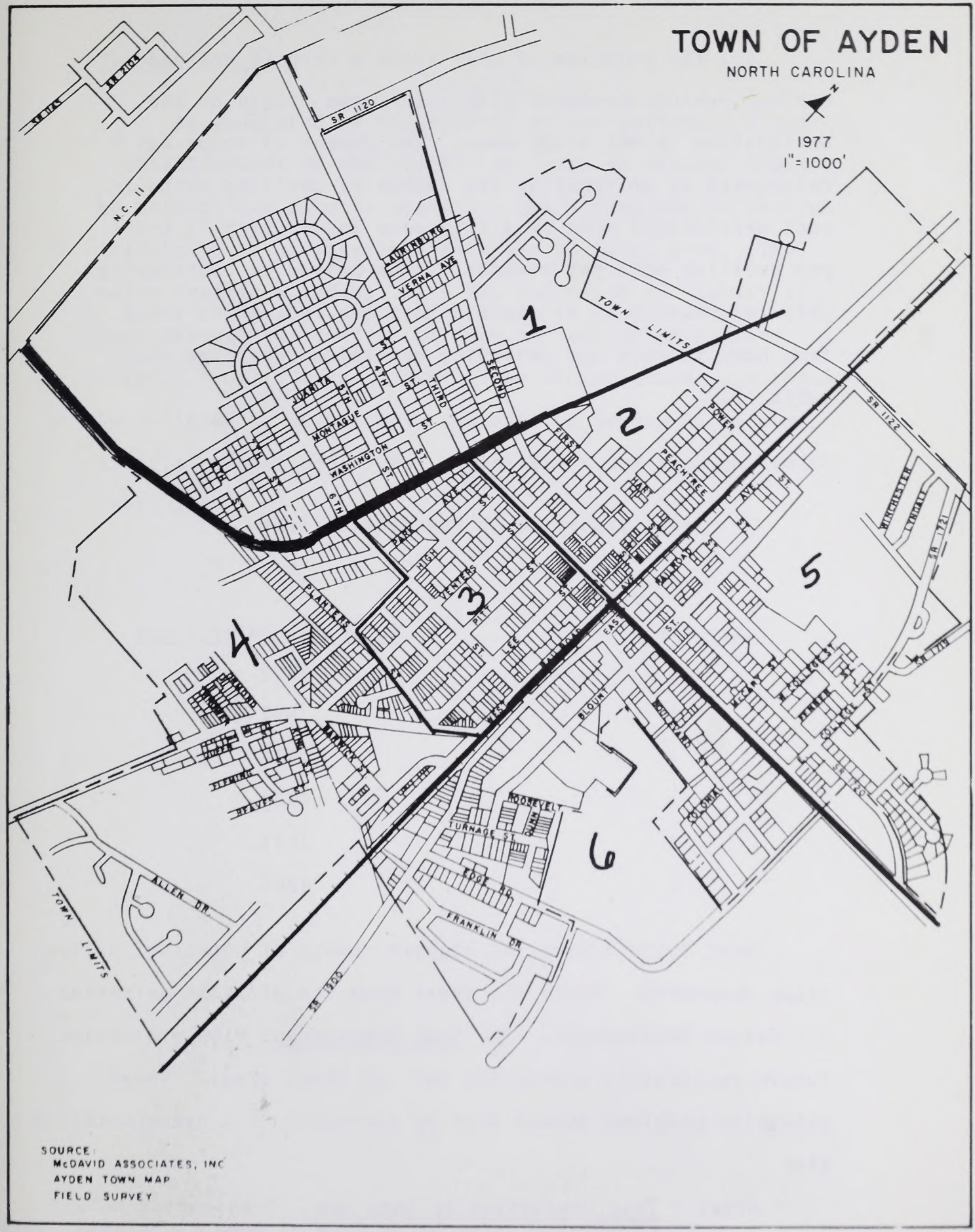
* At Pt. Above Power Street

points as much as twelve percent biannually over the previous four years. There are some indications that traffic volume has increased along Second Street but the limited number of observations makes such conclusions tentative at best.

The overall pattern appears to be one of increased traffic through the center of town. This trend should be reversed for through traffic and the thoroughfare plan should be designed to minimize through traffic in downtown Ayden. A second trend in traffic volume appears to be a decrease along secondary roadways. Roads such as SR 1122, Snow Hill Street and East Railroad Street have either had a decrease in traffic volume or marginal increases. The plan should also focus upon greater utilization of roadways which are not intended primarily for residential use (see table).

Residential Traffic Generation

In order to determine the average amount of traffic generated by residential areas in Ayden a trip generation estimated was calculated. The residential divisions of Ayden found in the Initial Housing Element have been employed for this purpose. The relative compact form of the Town of Ayden permits residential access to a number of collector roadways within the town. The gridiron pattern permits more free flow of traffic through the town. Consequently, the development pattern is such that relatively few residential neighborhoods funnel traffic to major streets at single points (See Map).



SOURCE:
McDAVID ASSOCIATES, INC
AYDEN TOWN MAP
FIELD SURVEY

For the purposes of this study a trip is defined as a one-way vehicle movement with either the origin or the destination in the study area. The number of trips was calculated by multiplying the number of dwelling units in each residential area by a trip rate factor of 9.51 trips per dwelling unit per weekday.* One method of considering this information is to realize that one individual going from home to work and returning generates two trips (see table).

TABLE

Trips Generated By Residential Area

Study Area	Potential Daily Trips
1	3338
2	894
3	1322
4	2339
5	1693
6	1265

Area 1 and 4 have the highest number of potential daily trips generated. These two areas have the greatest potential for future development. The Land Development Plan projects future residential growth for both of these areas. These potential problems should also be addressed in a transportation plan.

* After - Trip Generation By Land Use. Transportation and Planning Office, Urban Area of County, Arizona, 1974.

Through Traffic

As indicated by the traffic volume patterns, a substantial amount of the traffic in Ayden is through traffic. No attempt was made to determine the proportion of through traffic to total traffic within the planning area. The major traffic arteries, with the exception of Highway 11, pass through the central portion of town which reduces through traffic transit time. The thoroughfare plan should be designed to permit both residential access to circumfrential routes and bypass capabilities for through traffic vehicles.

Proposed Thoroughfare Plan

PROPOSED THOROUGHFARE PLAN

Summary of Findings

The following is a summary list of existing needs or factors which are pertinent to the development of a thoroughfare plan in Ayden. This information resulted from an examination of existing conditions which have been discussed in previous chapters.

1. Residential access needs should be one of the principal considerations in the design of a thoroughfare plan.
2. Development of the town has not occurred as readily in the NE, NW, SE and SW sectors of the town.
3. The major physical constraints to the future development of the town are Highway 11 and Swift Creek.
4. The growth rate of Ayden's vehicular population has been higher than that of the citizen population.
5. The gridiron street pattern of the town has inhibited a clear notion of the intended use of the streets.
6. Traffic accidents occur most often along the major arteries. The intersection of Barwick and Lee Streets may warrant special attention.
7. Through traffic is needlessly delayed under the present system.

The Proposed Thoroughfare System

Major Thoroughfares

1) Swift Creek Loop - A major outer Loop is proposed for the SE, E, NE and NW sectors of the town. This proposed thoroughfare will begin at the intersection of State Roads 1900 and 1901 and will parallel Swift Creek for most of its route terminating at State Road 1120 near the northern access to Highway 11.

2) Connecting link between SR 1120 and 1122 - This proposal will permit the use of State Road 1122 as a bypass for East/West traffic.

Minor Thoroughfares

1) Northern Extension of Snow Hill Street - This minor artery will permit further development of the NW sector of the town. It will also provide residential access to Highway 11.

2) Western Extension of Snow Hill and Connection of Edge with Barwick Street - This proposal will permit a complete inner loop within the town.

3) Southern Extension of Juanita Connecting SR 1901- This proposal will permit development in the SW sector of the town. It will also provide a second inner loop within the development area.

4) Southern Extension of East College Street - This proposal will permit the complete inner loop system. The proposal also takes advantage of existing town property and reduces the cost of purchasing Rights-of-Way.

Other Proposals

1) Reallignment of Intersection of Second and Juanita Streets - As Juanita becomes employed as part of an inner loop system it will be important to correct any potential difficulties.

2) Study of Barwick, Venters and Lee Street Intersection - This intersection will become increasingly hazardous as Barwick is linked with Edge Street. One possible solution would be the ending of Venters Street prior to the intersection.

Implementation of the Thoroughfare System

There are a number of methods which a town such as Ayden can use to implement its thoroughfare plan. Proper and concerted use of these methods can assure the development of the planned transportation network.

State-Municipal Adoption of a Thoroughfare Plan

Chapter 136, Article 3A, Section 136-66.2 of the General Statutes of North Carolina provides for the adoption of a municipal thoroughfare plan after its development. Once developed the thoroughfare plan may be adopted by the local governing body and then the Highway Commission. It will then become the basis for future street and highway improvements in and around the municipality. Following the mutual adoption of a thoroughfare plan negotiations will begin to determine which of the existing and proposed thoroughfares will be a Highway Commission responsibility. Facilities which are designated a Highway Commission responsibility will be constructed and maintained by the Commission. The local government, however, will share in the right-of-way acquisition costs. The actual share of the costs will be determined at the time of construction.

The Department of Transportation classifies three basic types of thoroughfare plans:

Type A Plan - A sketch type thoroughfare plan developed on the basis of very general population, land use, and land development data. Existing traffic conditions may be examined but there is no projection of traffic to a future design year.

Type B Plan - A more detailed thoroughfare plan which includes more detailed population, land use, and development studies and involves the projection of traffic volumes to future years to determine design requirements and construction priorities. Traffic-carrying capacity of the existing street system is examined and an inventory made of the existing system. Off-street parking and mass transit also be investigated.

Type C Plan - A detailed thoroughfare plan, including all of the studies in a type B plan and with the plan detailed to the extent that the proposed system of thoroughfares are delineated on topographic maps of a horizontal scale of 1 inch = 100 feet or 1 inch = 200 feet.

The proposed thoroughfare plan for Ayden includes more detail than the Type A Plan, but does not include an origin-destination study and the design requirements of a Type B Plan. Upon approval of this plan by the town of Ayden and the Highway Commission, steps should be taken to establish definite locations of the proposed roadways. Work should begin to establish such locations through cooperation with the Survey and Planning Branch, of the Department of Transportation. Such efforts will greatly reduce ambiguities in the proper enforcement of the Subdivision Regulations and lessen the

confusion of property owners and developers.

Subdivision Control

Ayden's subdivision regulations require that every proposed subdivision of land be reviewed by the Planning Board and Board of Commissioners. Through this process it is possible to reserve or protect the necessary rights-of-way for projected streets which are a part of the thoroughfare plan. This procedure also assures that streets will be constructed in accordance with the plan.

The following table gives the design requirements which are established in the Subdivision Regulations.

TABLE

Street Design Requirements
Ayden Subdivision Regulations

Street Type	Row Widths (Minimum) In Town	Outside Town	Pavement Widths (Minimum) Inside and Outside Town
Major Thoroughfare	90 feet	100 feet	53
Minor Thoroughfare	70 feet	70 feet	47
Local Street	60 feet	60 feet	28

Source: Ayden Subdivision Regulations - Article XVI Section A

Land Development Planning and Zoning

The Land Development Plan and Zoning Ordinance can be very important to thoroughfare planning. Planned locations of activities and residential densities have an impact upon the utility of the transportation network. Projected and permitted residential use and population densities provide a basis for future traffic projections which permit decisions concerning road needs.

The benefits of a good zoning ordinance include:

1. Standards for development which will aid traffic operations on streets and thoroughfares
2. Minimization of Strip Commercial development
3. Provisions for adequate off-street parking in new developments
4. Provisions for adequate visibility at intersections and along curves.

Capital Improvements Program

A very important procedure for developing a thoroughfare plan includes tying local financial commitments to the proposed plans. A separate capital category should be established in the Capital Improvements Program for major and minor thoroughfares. This category should be established primarily for Right-of-Way acquisitions. Proven financial commitment by the locality is viewed favorably by the Department of Transportation and often facilities a like commitment for highway funds.